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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/902,995	JAYANT ET AL.
	Examiner	Art Unit
	Tung Vo	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 27 June 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-51 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-51 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 17, 25, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (US 6,025,880).

Note the applicant discloses a optimum display size can consider the quality of the display device , such as its resolution capabilities ([0076] of page 7 of US 2002/0028024) and the size of the display device.

Re claims 17-18 and 25-27, Nakagawa discloses a method for calculating an optimum display size for a visual object (23 of fig. 2, and fig. 3) comprising the steps of for a predetermined number of frames of visual object (30 frames/seconds; col. 6, lines 7-12), calculating a step size (12 of fig. 2); deriving a coding difficulty value as a function of step size (11, 12, 13, and 22 of fig. 2); determining the optimum display size (23 of fig. 1; col. 8, lines 5-13) for the visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2); wherein the visual object comprises one of a graphical image and video (fig. 4, video); calculating step sizes for one of sets of frames of the visual object (30 frames per second), a sampling of frames of the visual object, and each frame of the visual object; wherein the step of calculating the step size further comprises the step of

calculating the step size based upon a first transformation coefficient (11 of fig. 2); wherein the step of calculating the step size further comprises the step of calculating the step size based upon a second transformation coefficient (11 of fig. 2).

In the remarks filed 06/27/2006 part II, the applicant argued that display size (accomplished through, for example, pixel repetition, rendition, or interpolation) is not resolution. A display size refers to the potential use of, for example, pixel repetition to display a visual object (such as a frame or a video stream) at a certain visual size, regardless of resolution and Nakagawa does not disclose a display size.

The examiner respectfully disagrees with the applicant. It is submitted that Nakagawa does disclose determining the optimum display size (23 of fig. 1; col. 8, lines 5-13, resolution determination means for resolution of the input signal to be encoded and reference picture according to information relevant to a previous frame provided by the motion prediction/calculation means (22 of fig. 2), wherein the high resolution and high resolution are determined (fig. 3)) for the visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2), the resolution contains pixels in vertical and horizontal dimensions, when the resolution is determined, the display size is calculated based the pixels. In view of discussion above, Nakagawa anticipates the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of in view of Ismaeil et al. (US 6,876,703 B2).

Re claims 1 and 35, Nakagawa teaches a method for calculating an optimum display size for a visual object (23 of fig. 2, and fig. 3) comprising the steps of compressing a visual object (fig. 4) with a visual object encoder (fig. 2); for a predetermined number of frames of visual object comprising at least one video frame (30 frames/seconds; col. 6, lines 7-12), deriving a coding difficulty value (11, 12, 13, and 22 of fig. 2); determining the optimum display size (23 of fig. 1; col. 8, lines 5-13) for the visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2); wherein the visual object comprises one of a graphical image and video (fig. 4, video); transmitting the visual object over a computer network (25 of fig. 2); wherein the visual object transmission rate comprises one or more values measured in units of information per unit of time (encoded video object of fames per second) and a speed at which binary digits are transmitted (encode video object are binary digits); wherein the video comprises one of a stored video and a live television signal (INPUT ORIGINAL PICTURE of fig. 2).

It is noted that Nakagawa does not particularly teach calculating one or more signal to noise ratios wherein calculating the signal to noise ratios comprises comparing an original visual object with an encode visual object.

However, Ismaeil teaches calculating one or more signal to noise ratios wherein calculating the signal to noise ratios comprises comparing an original visual object with an encode visual object (col. 6, lines 53-55).

Therefore, taking the teachings of Nakagawa and Ismaeil as whole, it would have been obvious to one of ordinary skill in the art to modify the suggested teachings of Ismaeil into the calculating optimum display system of Nakagawa to provide dynamic modification of the parameters of encoding in order to ensure that certain constraints will be satisfied, as a result there is an increased demand for systems capable of efficiently encoding video signals.

5. Claims 2-11, 15-16, 19-24, 31-34, 39, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US 6,876,703 B2) as applied to claims 1 and 35, and further in view of Lau et al. (US 6,681,043 B1).

Re claims 2-11, 15-16, 19-24, 31-34, 39, and 51, the combined Nakagawa and Ismaeil teaches the method for calculating an optimum display size for a visual object above.

It is noted that combination of Nakagawa Ismaeil does not particularly teach a sampling of frames of the visual object, and each frame of the visual object, the graphical image comprises one of a banner advertisement, a photograph, and a graphical object; automatically displaying the visual object with the optimum display size; displaying the visual object with the optimum display size in response to a user command; wherein the step of displaying a message further comprises displaying a message with one of a cathode ray tube, a liquid crystal display, a light emitting diode display, and a projector; and transmitting the visual object over a wireless

medium; one of radio frequency waves, infrared light waves, and a form of electromagnetic coupling; a form of payment as a requirement to encode the visual object as claimed.

However, Lau teaches the step of sampling of frames of the visual object, and each frame of the visual object (col. 3, lines 13-28; col. 8, line 40-col. 9, line 3); the graphical image comprises one of a banner advertisement, a photograph, and a graphical object (col. 5, lines 50-65; MPEG-4 standard); automatically displaying the visual object with the optimum display size (fig. 3); displaying the visual object with the optimum display size in response to a user command (fig. 3); wherein the step of displaying a message further comprises displaying a message with one of a cathode ray tube, a liquid crystal display, a light emitting diode display, and a projector (fig. 6); transmitting the visual object over a wireless medium; one of radio frequency waves, infrared light waves, and a form of electromagnetic coupling; a form of payment as a requirement to encode the visual object (34 of fig. 2; Note NETWORK I/F).

Therefore, taking the teachings of Nakagawa, Ismaeil, and Lau as a whole. It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Lau into the method of the combination of Nakagawa and Ismaeil to allow the operator is able to visualize how peak signal to noise ratio varies between video objects over a sequence of frames or how the total number of bits affects the peak signal to noise ratio of each component of an object. When the image quality is unsatisfactory, these displays enable the operator to identify a parameter in need of adjusting to balance peak signal to noise ratio and the bit rate.

6. Claims 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US 6,876,703) as applied to claim 17,

and further in view of Lau et al. (US 6,681,043 B1) as applied to claim 35, and further in view of Keesman (US 5,805,224).

Re claims 28 and 36, the combination of Nakagawa, Ismaeil, and Lau does not particularly teach the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer as claimed.

However, Keesman teaches the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer (col. 1, lies 15-42).

Therefore, taking the teachings of Nakagawa, Ismaeil, Lau, and Keesman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Keesman into the combination method of Nakagawa, Ismaeil, and Lau for the same purpose of calculating the step sizes. Doing so would provide the encoding method more efficiency.

7. Claims 13-14, 29-30, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Ismaeil et al. (US 6,876,703 B2) as applied to claims 1, 17, and 35, and further in view of Rui (US 6,859,802 B1).

Re claims 13-14, 29-30, and 37-38; The combination of Nakagawa and Ismaeil does not particularly teach the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions; and the step of associating one of a plurality of empirically determined stair step functions with values indicating a relative size of visual object on display device as claimed.

However, Rui teaches the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions (col. 9, lines 40-47); and the step of associating one of a plurality of empirically determined stair step functions with values indicating a relative size of visual object on display device (Note the empirically functions can be varied so that the stair step function is performed).

Therefore, taking the teachings of Nakagawa, Ismaeil, and Rui as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Rui into the combination of Nakagawa and Ismaeil for the same purpose of empirically determined the display size. Doing so would provide for improved image retrieval based on relevance feedback.

8. Claims 40, 43 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043).

Re claims 40, 43, and 45-46, Bae teaches a system for calculating an optimum display size for a visual object comprising (fig. 6): an decoder (61 of fig. 1) for decompressing a visual object, for calculating a step size for a predetermined number of frames of the visual object (an inverse quantization process performs a step sized; a predetermined number of frames (I, B, P) as considered 30 frames per second; col. 1, lines 11-50), for estimating a coding difficulty value as a function of step size (the inverse quantization process); a display size selector (62 of fig. 16) for determining an optimum display size (509 of fig. 5) of the visual object based on the estimated coding difficulty value and a visual object transmission rate (fig. 5 and 6; col. 6, lines 1-62);wherein the visual object comprises one of a graphical image and video (I, B, P video

image); a visual object render (510 of fig. 5; 14 of fig. 6)) for generating the decompressed visual object.

It is noted that Bae does not particularly teach a display device for displaying a message indicating the optimum display size for the encoded visual object; estimates a harmonic mean of a peak to noise ratio for a predetermined number of frames of the visual object as claimed.

However, Lau teaches a display device for displaying a message indicating the optimum display size for the encoded visual object; and estimates a harmonic mean of a peak to noise ratio for a predetermined number of frames of the visual object (fig. 6).

Therefore, taking the teachings of Bae and Lau as a whole. It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Lau into the system of Bae to allow the operator is able to visualize how peak signal to noise ratio varies between video objects over a sequence of frames or how the total number of bits affects the peak signal to noise ratio of each component of an object. When the image quality is unsatisfactory, these displays enable the operator to identify a parameter in need of adjusting to balance peak signal to noise ratio and the bit rate.

9. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043), and further in view of Keesman (US 5,805,224).

Re claim 42, the combination of Bae and Lau does not particularly teach the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer as claimed.

However, Keesman teaches the step of calculating a mean value of the calculated step sizes an audio encoder and an audio/video system multiplexer (col. 1, lies 15-42).

Therefore, taking the teachings of Bae, Lau, and Keesman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Keesman into the combination method of Bae and Lau for the same purpose of calculating the step sizes. Doing so would provide the encoding method more efficiency.

10. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,256,045) in view of Lau et al. (US 6,681,043), and further in view of Rui (US 6,859,802 B1)

Re claim 44, The combination of Bae and Lau does not particularly teach the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions as claimed.

However, Rui teaches the step of determining the optimum display size for the visual object comprises the step of associating the coding difficulty value and a visual object transmission rate of the visual object with one or more empirically determined functions (col. 9, lines 40-47)).

Therefore, taking the teachings of Bae, Lau, and Rui as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Rui into the combination of Bae and Lau for the same purpose of empirically determined the display size. Doing so would provide for improved image retrieval based on relevance feedback.

11. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,025,880) in view of Klosterman et al. (US 6,469,753 B1).

Re claim 47-50, Nakagawa discloses a method for calculating an optimum display size for a visual object (figs. 2-4) comprising the steps of compressing a visual object with a visual object encoder (fig. 2); determining the optimum display size (23 of fig. 2) for the visual object based on at least one of a coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2; col. 8, lines 5-24).

It is noted that Nakagawa does not particularly teach the step of displaying a message indicating the optimum display size for the encoded visual object; wherein the step of determining an optimum display size further comprises the step of evaluating one of a quality of the display device and a size of the display device; and automatically displaying the visual object with the optimum display size; displaying the visual object with the optimum display size in response to a user command as claimed.

However, Klosterman teaches the step of displaying a message indicating the optimum display size for the encoded visual object (col. 8, lines 26-50); wherein the step of determining an optimum display size further comprises the step of evaluating one of a quality of the display device and a size of the display device (figs. 5a, 5b); and automatically displaying the visual object with the optimum display size (MPEG-2 of fig. 6a); displaying the visual object with the optimum display size in response to a user command (MPEG-1 of fig. 6a).

Therefore, taking the teachings of Nakagawa and Klosterman as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Klosterman into the method of Nakagawa for displaying the indication of the compressed or encoded video

format. Doing so would allow the user to choose between full screen display of the guide and a partial or reduced size picture-in-picture (PIP) window display of the guide via.

Response to Arguments

12. Applicant's arguments filed 06/27/2006 have been fully considered but they are not persuasive.

The applicant argued that Nakagawa does not discloses a display size, parts II and III, A of the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Nakagawa does disclose determining the optimum display size (23 of fig. 1; col. 8, lines 5-13, resolution determination means for resolution of the input signal to be encoded and reference picture according to information relevant to a previous frame provided by the motion prediction/calculation means (22 of fig. 2), wherein the high resolution and high resolution are determined (fig. 3)) for the visual object (fig. 4) based on at least one of the coding difficulty value (22 of fig. 2) and a visual object transmission rate (25 of fig. 2). In view of discussion above, Nakagawa anticipates the claimed invention.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tung Vo
Primary Examiner
Art Unit 2621